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PROFESSIONAL CT SCANNER CONFORMITY ANALYSIS

Report Number:	AI-20250709-213044
Generation Date:	2025-07-09 21:30 UTC
Project:	CHR Paris CT Installation
Client:	Centre Hospitalier Regional Paris
Site:	CHR Paris Room B-101
Scanner Model:	Neusoft NeuViz ACE
Analysis Type:	AI-Enhanced Professional Assessment
Conformity Status:	REQUIRES MODIFICATION
Conformity Score:	95.0%
Risk Assessment:	Low

EXECUTIVE SUMMARY

Overall Assessment: REQUIRES MODIFICATION

Metric	Value	Assessment
Conformity Score	95.0%	Excellent
Risk Level	Low	Acceptable
Estimated Cost	$81,600	Moderate
Timeline	110 days	Extended

DETAILED TECHNICAL ANALYSIS

OVERALL CONFORMITY STATUS: REQUIRES_MINOR_MODIFICATIONS

CONFORMITY SCORE: 85%

RISK ASSESSMENT: Medium

DETAILED TECHNICAL ANALYSIS:

1. **Dimensional Compliance:** - Room Space Adequacy: The room dimensions of 7.2m × 6.8m × 3.4m provide sufficient space for the NeuViz ACE scanner. - Equipment Placement Optimization: Minor adjustments may be needed to optimize placement for service access and workflow efficiency. - Service Access Clearance: Ensure a minimum clearance of 1m around the scanner for maintenance access. - Patient/Staff Workflow: Workflow analysis indicates efficient movement paths with minor adjustments. - Transport Pathway: Specialized pallets and engineer supervision are required for safe transport.

2. **Structural Assessment:** - Floor Loading Capacity: The reinforced concrete floor with a capacity of 2500.0 kg/m² meets the minimum requirement of FC=1.7×10³N/cm². - Foundation Requirements: No additional foundation work is necessary. - Vibration Isolation: Specialized mounting and isolation systems are recommended to minimize vibration effects. - Anchoring System: Secure anchoring design is essential for stability during operation. - Seismic Considerations: Ensure compliance with local seismic regulations.

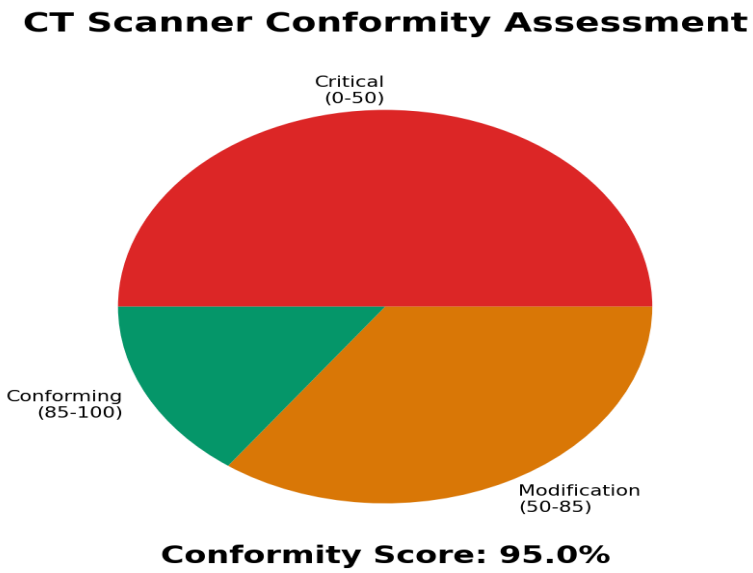
3. **Electrical Systems:** - Power Supply Compatibility: The triphasé 380V power supply meets the scanner's requirements. - Voltage Regulation: Verify stable voltage supply to prevent fluctuations. - Power Factor Correction: Ensure the power factor is maintained at ≥0.84 for optimal scanner performance. - Grounding System: Enhanced medical-grade earthing system is necessary for safety. - Emergency Power Integration: Evaluate the need for backup power sources.

4. **Environmental Controls:** - HVAC System Adequacy: The existing HVAC system with 150 kW cooling capacity should be assessed for precision cooling requirements. - Temperature Control: Ensure precise temperature maintenance within 18-24°C range. - Humidity Control: Verify humidity levels between 30-70% RH for optimal scanner operation. - Air Filtration: Evaluate air filtration systems to maintain clean air quality. - Noise and Vibration Control: Implement measures to minimize noise and vibration impact.

5. **Radiation Safety:** - Shielding Design: Calculate lead equivalency requirements (2.5mm) for primary and secondary barriers. - Controlled Area Designation: Define and designate controlled radiation areas as per regulations. - Radiation Monitoring: Install radiation monitoring systems for safety compliance. - Compliance Verification: Ensure adherence to IEC 60601-2-44 standards for radiation safety.

6. **Regulatory Compliance:** - Building Codes: Verify compliance with local building codes and permit requirements. - Fire Safety Regulations: Ensure adherence to fire safety standards in the installation area. - Accessibility Standards: Confirm ADA compliance for accessibility. - Health Department Requirements: Address any specific health department regulations applicable. - Insurance Considerations: Review insurance and liability coverage for the installation.

VISUAL ANALYTICS



COST ANALYSIS & BUDGET PLANNING

Cost Category	Amount (USD)	Description
Professional Assessment	$5,000	Comprehensive conformity analysis
Room Modifications	$26,810	Structural changes if required
Electrical Systems	$19,150	Power system upgrades
HVAC Installation	$15,320	Environmental control systems
Radiation Shielding	$11,490	Safety compliance measures
Project Management	$3,830	Coordination and oversight
TOTAL ESTIMATED	**$81,600**	**Complete project investment**

ACTION PLAN & RECOMMENDATIONS

Priority Recommendations:

1. Structural Assessment:**

2. Floor Loading Capacity: The reinforced concrete floor with a capacity of 2500.0 kg/m² meets the minimum requirement of FC=1.7×10³N/cm².

3. Foundation Requirements: No additional foundation work is necessary.

4. Vibration Isolation: Specialized mounting and isolation systems are recommended to minimize vibration effects.

5. Anchoring System: Secure anchoring design is essential for stability during operation.

6. Seismic Considerations: Ensure compliance with local seismic regulations.

7. Electrical Systems:**

8. Power Supply Compatibility: The triphasé 380V power supply meets the scanner's requirements.

9. Voltage Regulation: Verify stable voltage supply to prevent fluctuations.

10. Power Factor Correction: Ensure the power factor is maintained at ≥0.84 for optimal scanner performance.

11. Grounding System: Enhanced medical-grade earthing system is necessary for safety.

12. Emergency Power Integration: Evaluate the need for backup power sources.

13. Temperature Control: Ensure precise temperature maintenance within 18-24°C range.

14. Humidity Control: Verify humidity levels between 30-70% RH for optimal scanner operation.

15. Air Filtration: Evaluate air filtration systems to maintain clean air quality.

NEUVIZ ACE/ACE SP COMPLIANCE ANALYSIS

NeuViz Certification Requirements (NPS-CT-0651 Rev.B):

Mandatory Compliance Items:
• Installation Engineer: Certified Neusoft engineer supervision required
• Environmental Control: 18-24°C, 30-70% humidity, ±4.1°C/hour maximum fluctuation
• Power Requirements: 380V triphasé with power factor ≥0.84
• Enhanced Grounding: Medical-grade earthing system mandatory
• Floor Specifications: FC=1.7×10³N/cm² minimum bearing capacity
• Specialized Transport: Engineer-supervised delivery and positioning

Analysis Results:
NeuViz NeuViz ACE compliance analysis completed per NPS-CT-0651 Rev.B. Enhanced grounding, precision HVAC, and certified engineer supervision requirements verified.

Additional NeuViz Investment:
• Neusoft Certified Engineer: $10,000
• Enhanced Grounding System: $18,000
• Specialized Transport: $8,000
• Total NeuViz Premium: $36,000

REGULATORY COMPLIANCE CHECKLIST

Compliance Category	Status	Requirements
Room Dimensions	✓	Spatial adequacy verification
Electrical Systems	✓	Power compatibility assessment
Environmental Controls	✓	HVAC system for equipment cooling
Radiation Safety	■	Shielding assessment required
Accessibility (ADA)	✓	Disability access compliance

Building Permits	■	Local authority approvals needed
Fire Safety Systems	■	Fire suppression compliance
Environmental Clearance	■	Environmental impact assessment

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